Alpha Specialties, Inc.,

4471 Morgan Trail, HC 30, Box 934K, Prescott, AZ 86305-7486
Telephone: 928-776-0001 * Email: b.hammond@asu.edu

April 9, 2004

From: Robert L. Hammond, President of Alpha Specialties, Inc.

To: The Arizona Corporation Commission:
The Honorable Chairman Marc Spitzer,
The Honorable Commissioner Jeff Hatch-Miller,
The Honorable Commissioner William Mundell,
The Honorable Commissioner Mike Gleason, and
The Honorable Commissioner Kristin Mayes

Subject: Comments regarding the Proposed Changes to the EPS Rules

1. BACKGROUND

My comments are based on 27 years of experience in photovoltaic and renewable energy technologies:

- Director of Marketing, Sales and System Engineering for two PV module manufacturers [Motorola, Solar Division (5 yrs.) and Mobil Solar Energy Corporation (5 yrs.)]
- Consulted, on site, with electric utilities [Pacific Gas & Electric Company (4 yrs.) and Arizona Public Service Company (11 yrs.)]
- Established and directed the Photovoltaic Testing Laboratory at Arizona State University for certification of PV module reliability and durability
- Taught PV System Design courses at Arizona State University
- Consulted with 21 organizations over 17 years in the areas of PV technology assessment, market assessment, system design, performance, and reliability/durability
- Responsible for the design, installation, and performance of approximately 2,500 PV systems during the past 27 years
- Designed, built, and lived in a 2,600 square foot stand-alone PV home during the past 17 years

2. EPS CREDITS/BUYDOWN BASED ON PERFORMANCE

Many promising new technologies proposed at the ACC EPS workshops should qualify for the **EPS Credit Purchase** program or other subsidy. The subsidy or rebate program should be based on KWH produced over a period of 12 continuous months. Quality, reliability, and performance of all renewable systems will be greatly enhanced by such a requirement.

History has shown that installations that have been subsidized by state/federal tax credits and EPS/RPS credits often resulted in systems that do not perform well. Poor performance has been due to excessive array shading, non-south array orientation, poor installation practices, component failure (e.g., inverter failure), lack of system acceptance testing, and lack of system performance monitoring after installation.

Systems that are non-functional or poor performers should not be subsidized. Systems that track the sun and produce more KWH than fixed systems should be rewarded proportionally. Performance based (e.g., annual KWH per KW-rating) credits would ensure maximum benefit from the ACC EPS subsidy programs.

3. UTILITY SCALE PROJECTS vs. "DISTRIBUTED GENERATION"

The greatest opportunity for large-scale application of renewable energy, especially PV, is via the electric utilities. Arizona Public Service Company and Tucson Electric Power have demonstrated that large-scale applications result in the lowest installed cost and the fastest means to expand the deployment of PV and other renewable technologies in Arizona. Cost reductions are directly related to economies of scale and economies of volume per the experience-curve and learning-curve theories.

Therefore, the largest percentage (e.g. 85%) of the surcharge funds should be used for utility scale applications vs. small systems supported by the EPS Credit Purchase or other subsidy programs.

Sincerely,

Robert L. Hammond

Robert L. Hammond
President
EIN: 86-062 8889